

**REMARKS/ARGUMENTS**

Reconsideration of this application is requested. Claims 1, 4-9, 11-19 will be pending in the application subsequent to entry of this amendment.

In the instructions given above claims 12 and 13 are deleted and the features of claim 13 are incorporated into claim 1.

Claim 18 is amended to include the feature that the hair is contacted with an alkaline solution having a pH value in the range of from 9 to 11.

New claim 19 is added which is dependent from claim 18, specifying the mammalian hair is derived from pigs. Support for new claim 19 is found in paragraph [0011] of the subject application.

**Response to Rejections Under 35 USC §103**

As an initial matter it is important to keep in mind that to establish a case of *prima facie* obviousness, all of the claim limitations must be taught or suggested by the prior art. *See M.P.E.P. § 2143.03.* A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. *In re Kahn*, 78 USPQ2d 1329, 1334 (Fed. Cir. 2006) citing the legal standard provided in *Graham v. John Deere*, 148 USPQ 459 (1966). The *Graham* analysis needs to be made explicitly. *KSR v. Teleflex*, 82 USPQ2d 1385, 1396 (2007). It requires findings of fact and a rational basis for combining the prior art disclosures to produce the claimed invention. *See id.* (“Often, it will be necessary for a court to look to interrelated teachings of multiple patents . . . and the background knowledge possessed by a person having ordinary skill in the art, all in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue“).

The use of hindsight reasoning is impermissible. *See id.* at 1397 (“A factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of arguments reliant upon ex post reasoning”). Thus, a *prima facie* case of obviousness under Section 103(a) requires “some rationale, articulation, or reasoned basis to explain why the conclusion of obviousness is correct.” *Kahn*, 78 USPQ2d at 1335; *see KSR*, 82 USPQ2d at 1396. A claim which is directed to a combination of prior art elements “is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art.” *Id.* at 1396.

Finally, a determination of *prima facie* obviousness requires a reasonable expectation of success. See *In re Rinehart*, 189 USPQ 143, 148 (C.C.P.A. 1976). In the remarks that follow expectation of success in an important issue as it is missing from the applied prior art documents.

Claims 1, 4-9 and 11-17 were rejected under 35 USC §103(a) as allegedly being unpatentable over Anders, Akitaro and, if necessary, Nishino. Applicants respectfully disagree with the rejection. However, in an effort to expedite prosecution, claim 1 has been amended.

As explained in applicants' previous response, Anders teaches a much longer treatment than the treatment duration defined in the present claims. The examiner speculates on page 3 of the outstanding Office Action that "as time goes from 0 to 24 hours the hair undisputedly progresses from unbleached to fully white bleached." The claims now being examined however, do not recite a time from 0 to 24 hours. There is no disclosure, let alone an indication, in Anders that an oxidation treatment of 5 minutes to 16 hours would be sufficient for obtaining particulate material with properties such that it can be used in the preparation of a paper or paperboard product.

Furthermore, Anders provides an example with cows' hair and suggests that "hair of different origins and different grades requires different treatment" (see column 1, lines 45-47). Claim 1 as above amended recites a method using hair derived from pigs. Nothing in Anders suggests how to modify the oxidation treatment for pig hair.

Nishino relates to methods of bleaching a fiber material by using a stabilizing agent. Contrary to the examiner's assertion, the passages cited by the examiner do not teach a bleaching treatment of animal hair for paper making pulps. Column 1, lines 20-35 discusses the disadvantages of the conventional chlorine-containing bleaching agents and column 8, lines 64-65 lists the fiber materials that can be used for bleaching with the stabilizing agent. Nothing in Nishino teaches or suggests that the claimed methods are suitable for obtaining particulate material with properties such that it can be used in the preparation of a paper or paperboard product.

The examiner appears to be suggesting that a person skilled in the art would combine the bleaching process of Anders with the bleaching process of Nishino in the paper product making process of Akitaro. However, nothing in Anders or Nishino suggests, and a person skilled in the art has no reasonable expectation of success, that the disclosed bleaching processes are suitable

for using pig's hair in the preparation of a paper or paperboard product. It is noted in this respect that the abstract of Akitaro mentions wool as animal hair, which has completely different properties than pig's hair. Pig's hair is much thicker and stiffer than wool. The skilled person would therefore be reluctant to substitute the wool as taught by Akitaro with pig's hair.

The Status of Claim 18 ?

Applicants note that while claim 18 is referred to on page 10 of the Office Action, it is not formally listed in the §103(a) rejection on page 6. If the examiner wishes to maintain the rejection clarification is requested, however, in order to provide a responsive reply applicants provide the following: Claim 18 is directed to a paper or paperboard product. Nothing in the cited references teaches or suggests paper or paperboard products made from particulate material derived from mammalian hair as prepared in the claim. Furthermore, nothing in the cited references teaches or suggests that the bleaching process of the invention is suitable for preparing mammalian hair that is suitable for the production of these products. It is applicants own disclosure which demonstrates that mammalian hair subjected to the claimed bleaching process can be used to generate paper with suitable properties (see Figures 1-5).

Claims 2, 3 and 10 are rejected under 35 USC §103(a) as allegedly being unpatentable over Anders, Akitaro, if necessary, Nishino, and further in view of Smook.

As explained above, nothing in Anders, Nishino, or Akitaro, either alone or in combination teaches or suggests the methods of the claims. Smook fails to remedy this deficiency.

Response to Provisional Obviousness-Type Double Patenting Rejection

A single provisional obviousness-type double patenting rejection is made on page 5, relating to certain claims of co-pending application 11/628,715. As stated earlier during the examination of this application, applicants will hold a full and complete response in abeyance until specific allowability is indicated in either or both of the involved applications, that is this one or Serial No. 11/628,715.

Reconsideration and favorable action are requested. Should the examiner require further information, please contact the undersigned.

Respectfully submitted,

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